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THE TEMPORAL LOGIC MODEL

A CONCEPT PAPER

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1.0 INTRODUCTION

The Logic Framework Analysis (LFA) was invented in the 1960's by a team of consultants led by Leon Rosenburg (Gasper, 1997). Despite widespread criticisms, its use has proliferated throughout the international development field. Over the last 40 years it has become part of standard procedures for program and project management and evaluation at the Canadian International Development Agency (CIDA), the Danish International Development Agency (DANIDA), the German Agency for Technical Corporation (GTZ), the Norwegian Agency for Development (NORAD), the British Oversea Development Agency (ODA), and the Swedish International Development Agency (SIDA) and the US Agency for International Development (USAID)

The LFA is part of a family of logframe analyses that includes results chains (primarily used in the Canadian domestic development field) and program logic models (primarily used in the healthcare field). Given slight variations of terminology and structure, the purpose of a logic model is to illustrate the program's components and how they logically link together. The model is also used to measure the success of the program against its original intentions. Yet, these logic models cannot capture the fluid motion of a program as it adapts to a chaotic environment and stakeholders who are constantly learning. In the absence of process, management and evaluation are limited to measuring accountability, losing an opportunity for learning from the program.

In order to address this issue, IDRC's Evaluation Unit has researched and developed an alternative logic model that could include program responsiveness to environmental changes and the organizational learning process. The alternative model, entitled the Temporal Logic Model (TLM), achieves this through periodically recording contextual changes, interim assessment, and integrating any subsequent modifications. The following article will provide a brief theoretical framework for the subsequent presentation of the TLM's attributes, outcome orientation, logical statements, and internal mechanisms.

2.0 THEORETICAL FRAMEWORK

The debate surrounding logic models is rooted in our basic perception of programs and how we envision the process of implementation. General Systems Theory has three distinct branches that describe how we can perceive programs as systems. They are: hard systems, which are closed, representations of structures; open systems, which are dynamic evolutionary processes of change; and soft systems, which are methods of modelling, interpreting and planning interventions.

The hard systems approach formed the basis of social engineering, policy analysis, and management science that emerged in the post WW II era. Introducing terminology such as inputs, outputs, and feedback loops (Friedmann, 1987), this type of approach describes a cause and effect process contained in a closed environment. In the design phase, potential issues and components are identified and assembled (Checkland, 1990). Implementation is merely a matter of executing the prescribed activities according to the plans. The success of the system or program can then be measured by comparing the end results against the original blueprint. The introduction of feedback loops expanded the concept of closed systems by illustrating some aspects of process. While this does enrich the models, they still rely on the designer's powers of foresight to establish possible connections and influences over the system before implementation. This is connected to two key

assumptions. They are that the original designers/planners have comprehensive knowledge of the situation, and, that there are no external factors which could interfere with implementation.

As mentioned above, logic models provide a sketch of the program components and how they are linked together. While useful for providing a quick administrative overview, they have been highly criticised for presenting a closed system image which rarely occurs in the field. Figure 1 depicts the Logical Framework Analysis (LFA) as a model of a 'fixed' or closed system.

Figure 1: Standard Logical Framework Analysis (LFA)

	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Assumptions
Goals				
Purposes				
Output				
Input				

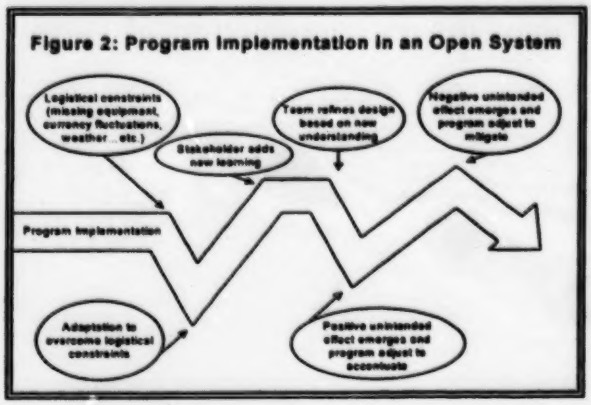
Ludwig von Bertalanffy's distinction between closed and open systems sparked the development of a more organic view of systems as a continual process accessible to outside influences (Checkland, 1990). Open systems create a more dynamic and complex understanding of systems that better reflects the program and project implementation process. Open systems contain several key elements summarized by Carden:

> *The process in a system is copoetic; order is created out of chaos through a collective process of interaction. The structure is dissipative; that is, order is achieved through fluctuation; stability is long-term not short-term and in the short term structures may appear highly unstable and uncertain. Evolution is self-transcendent. That is, the evolution of a system is through its changing its own consciousness and breaking the symmetry in which it exists. (Carden, 1990)*

Figure 2 illustrates that the program is in an ongoing dialogue with complex external factors. Program design should change as the program adapts to a sometimes chaotic environment, unintended effects emerge, or program assumptions are undermined. From this perspective, program management becomes more of an art form than a science.

The open systems perspective can be found in a variety of conceptual frameworks including the social learning paradigm. This approach states that individuals/groups who are involved in activities should enter into a learning process. The process consists of continuous learning loops of action, reflection and adaption in which the stakeholders gain tacit and explicit knowledge (Korten, 1984). As a result of the learning process, the program design and activities can change several times as actors engage in dialogue with the self, each other and their former decisions. Thus, the stakeholder's learning becomes both subjected to and the cause of program fluctuations. This type of responsiveness and incorporation of lessons learnt is an integral part of a learning organization and a primary characteristic of open systems.

Figure 2: Program Implementation in an Open System


Logistical constraints (missing equipment, currency fluctuations, weather ...etc.)
Stakeholder adds new learning
Team refines design based on new understanding
Negative unintended effect emerges and program adjust to mitigate
Program Implementation
Adaptation to overcome logistical constraints
Positive unintended effect emerges and program adjust to accentuate

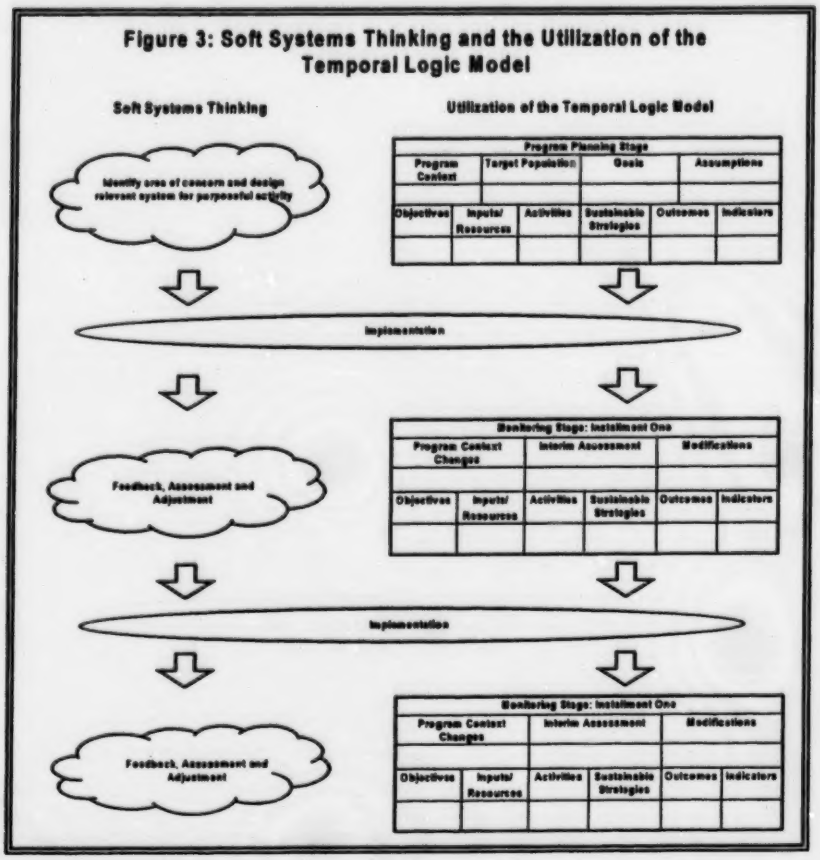
Soft systems are unique in General Systems Theory because they identify a method of interpreting systems rather then describing characteristics and rules surrounding the system itself. According to Checkland:

> *The basic shape of the approach is to formulate some models which it is hoped will be relevant to the real-world situation, and use them by setting them against perceptions of the real world in a process of comparison. That comparison could then initiate debate leading to a decision to take purposeful action to improve the part of the real life which is under scrutiny.* (Checkland, 1990)

Checkland further describes how soft system models are in a continuous process of feedback, assessment and adjustment. Through this cycle the stakeholders are continually trying to incorporate more and more complexity to gain better representation of our immense reality. The soft system's cycle could easily be matched with the learning cycle (described above as action, reflection and adaptation). Thus, it can be said that the stakeholder is utilizing a soft systems approach of interpreting an open system of which s/he is part.

Given this analysis, traditional logic models illustrate a hard systems perspective of social development programs. In contrast, the TLM was designed as a soft system that could assist stakeholders to understand the program as an open system, essentially, expanding the model to reflect an increasing understanding of our reality. This allows the stakeholder's understanding and documentation of the program to evolve with the program's implementation. These concepts are illustrated by Figure 2, which depicts program implementation in an open system, and Figure 3, that correlates soft systems thinking with the implementation of the TLM.

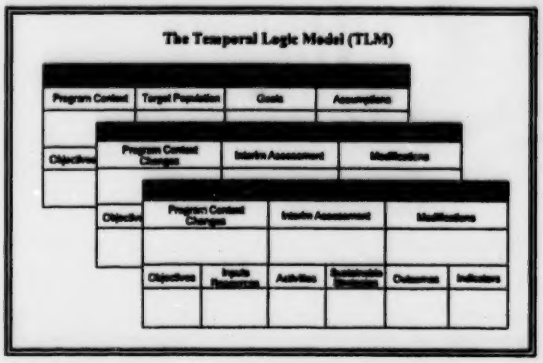
Figure 3: Soft Systems Thinking and the Utilization of the Temporal Logic Model



3.0 TLM ATTRIBUTES

The development of the TLM was approached much like a puzzle. The dimension of time was combined with the positive attributes from existing logic models and fitted to an easily understood format. While the general purpose is to provide program stakeholders with an effective tool to monitor process, the TLM's potential has evolved to include several additional theoretical and practical attributes that standard logic models lack. The possible range of attributes for the TLM are:

1. The TLM is **complementary to the social learning process**. By recording program context changes and interim assessment, the TLM encourages reflection on past and present activities. The emphasis on revising the program design row promotes critical thinking about its structure. Further, it tracks the program's adaptation, as stakeholders learn more about the issues. For these reasons, it supports the learning process approach to social development.



2. The TLM **does not have a specified time-frame.** The term 'Project-ism' was used by Des Gasper (1997) to illustrate the development industry's obsession with short term projects and programs. He stated that the LFA supports this tradition by only illustrating one set of interventions within a specific time-frame. The standard logic models cannot move beyond the first phase of a program to incorporate a long-term vision. In contrast, the TLM incorporates a series of stages which grow with the program. The stages should record and monitor the different phases without a specified end.

3. The TLM provides the flexibility to **be responsive to the program context**. It is an articulation of the dynamic relationship between what Shadish (1987) termed the microtheory and macrotheory. The microtheory, an expression of the internal workings of a program, is envisioned as a program's 'black box' in a clinical environment. Yet the 'box' is often distorted from the unpredictable environment in which it is situated. The program environment is chaotic, and changes can occur in a variety of areas including: changes in the political economy, weather shifts, stakeholders learn new information, equipment does not arrive, participants change their minds.....etc. Adaptability is essential for programs to maintain a steady course toward their original goals.

4. The TLM focusses on **monitoring and recording the process**. Monitoring systems support, if not provide a catalyst for the learning process. They promote intermittent change, in order to correct small problems before they become larger.

5. The TLM can be used as a **strategic-decision making tool**. The stakeholders go through the process of recording program context changes and any monitoring results. Based on this

layout, they can then openly discuss the key issues and possible modifications to the program design, and record them in the subsequent program design rows. The process of reflection can promote dialogue among stakeholders in order to prompt strategic decision-making.

6. The TLM **captures unintended consequences**. The stakeholders can expand their causation focus to include unforeseen results by allowing outcomes to change throughout the lifespan of the program. Once the unintended results are incorporated into the framework, action can then be taken to mitigate the negative and accentuate the positive effects.

7. The TLM provides a **chronology of program history**. It builds up an institutional memory and conveys key information for a summative evaluation by recording the program context changes, interim assessment and modifications. This is essential to an organization that is dealing with a high degree of change, is geographically diverse, or has a high turnover of staff.

8. As a monitoring tool, the TLM **promotes dialogue between the donor and recipient**. On one hand, the TLM requires justification for any changes to the program design. On the other hand, it provides the field worker with a flexible framework, allowing him/her to be responsive to the program context. This balance could act as a catalyst for more informed dialogue between the levels of administration.

In addition to the theoretical characteristics, there are a number of practical issues embedded in the design. They are as follows:

1. The TLM is **applicable to different stages of the program**. It can be used to test the logical linkages of the program; to monitor progress and lessons learnt during the implementation phase; and, finally, to document the program history for a summative evaluation.

2. **The structure of the TLM should explicitly illustrate that the program is an ongoing process in which monitoring and periodical reflection of the program design is necessary**. Although some authors, such as Sawadogo and Dunlop (1997), recommend that logic models be redone as the program changes, it is not explicit in their structure. By leaving the open spaces to be filled in later, the structure explicitly identifies the need for updates.

3. The TLM was formatted to read like a newspaper, without cross-referencing within the framework. **Keeping the design simple** is important for three reasons: (1) it can be easily read and understood by all stakeholders; (2) it is a simple technology that can be applied anywhere in the world; and, (3) it can be used in a group setting.

Given the nature of implementation, problems with the TLM are bound to arise. Every tool is subject to the dangers of conceptual misunderstandings and misuse. There are also a number of program specific issues (entrenched hierarchical structures, irreconcilable differences among stakeholders, ...etc.) that could impede the development of a program vision, multi-stakeholder approach or program modifications. These types of situations highlight the fact that logic models are simple tools designed to assist humans through program planning and management. Without human 'buy-in' to actualize the tool, the logic model remains just a chart.

4.0 Outputs, Outcomes, Impacts and Sustainable Strategies

The literature on outputs, outcomes, and impacts reveals a host of definitions with slight variations. Generally, the literature correlates the terms with immediate, short-term and long-term results of a program or project. The time frame of the results also corresponds with the depth of the information and types of changes. Since profound results tend to take a longer time to emerge, outputs, outcomes and impacts should have deeper and deeper roots in behaviour and societal structures as time progresses. This description is illustrated in Fowler's Table shown in Table 1.

Table 1: Fowlers' Table

Point of Measurement	What is Measured	Indicators
Outputs	Effort	Implementation of Activities
Outcomes	Effectiveness	Use of outputs and sustained production of benefits
Impact	Change	Differences from the original problem situation

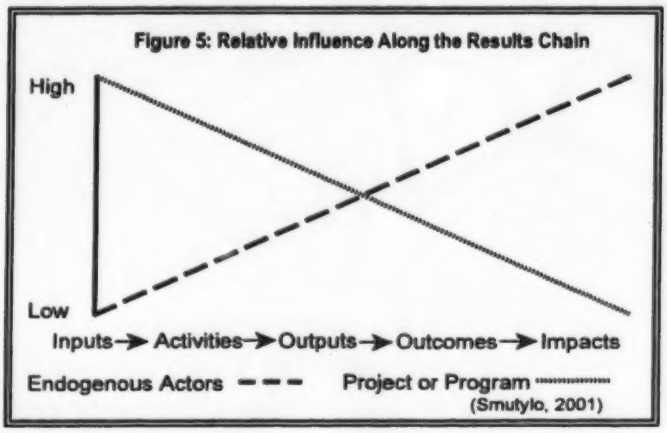
(Oakely, Pratt & Clayton, 1998)

Outputs are closely related to the activities or program 'deliverables'. They are usually the number of workshops held, number of clients, number of grants distributed ...etc. Often already captured in the activities category, this type of detailed accounting was deemed not necessary for the general overview of program design illustrated by the TLM.

Oakely, Pratt and Clayton (1998) define outcomes in the statement *"the crucial first stage of measurement will be to assess what has been the outcome of the project in terms of the effect it has had on the initial situation....by effect we mean the more immediate tangible and observable change in relation to the initial situation and established objectives, which it is felt has been brought about as a direct result of the project."* From this description, outcomes become the focus of the majority of evaluations due to their accessible time frame and depth of change. They are also more specifically defined and directly attributable than other results, such as impacts.

According to Fowler's Table, impacts are the long-term results that imply a broader societal change which may only be measured several years after the program is completed. Some examples of impacts are: an increase standard of living, human resource development, gender equality, increase political awareness of environmental issues..etc. Although this information is most desirable for the stakeholders, impacts are rarely measured because they are too general for direct attribution and the length of time it takes for real impacts to emerge (Oakley, Pratt & Clayton, 1998).

In an effort to address the ambiguity surrounding the categorization of different results, IDRC's Outcome Mapping is directed solely towards outcomes. The approach redefined outcomes to accentuate contextual change without restricting it to a specific time frame. For Outcome Mapping, outcomes are "*Changes in the behaviour, relationships, activities, and/or actions of boundary partners that can be logically linked to, although are not necessarily directly caused by, a project or program.*" They also substituted attribution for contribution in the terms "*logically linked ... not necessarily directly caused by*" (Earl, Carden & Smutylo, 2000). This reflects a shift in focus from evaluating changes in state, to evaluating changes in behaviour.



The depth or extent of change to behaviour forms an interesting outcome dynamic with accountability. As you move from outputs to impacts, the level of program influence decreases. Conversely, the level of stakeholder involvement increases along the same path. The results are inadequate stakeholder involvement for behavioural changes in outputs and inadequate program influence for accountability in impact. The two variables intersect at outcomes, providing partial involvement of stakeholders to encourage behavioural change and partial program influence to allow for accountability. Thus, outcomes becomes the target for measuring behavioural change in a program (Smutylo, 2001).

In an effort to maintain a long-term emphasis without entering an expensive and undetermined search for impacts, the TLM replaced impacts with sustainable strategies. This still keeps an emphasis on long-term planning, but focuses on the ex-ante and implementation program stages rather than ex-post. Sustainable Strategies ask the question *"What are the program strategies for ensuring that the initiative continues beyond your program's involvement?"* This asks the program stakeholders to plan several organizational strategies to ensure that the activities are fully integrated into the target community. ***The strategies are not intended to promote self-perpetuating organizations but to assist the long-term goals of the program to take root inside the target community.*** Sustainable strategies could include empowerment activities, mentoring community members in program management, revolving funds for development, ...etc.

AusAid has developed a similar concept of the same name. They define Sustainable Strategies as "*the continuation of benefits after major assistance from a donor has been completed*". Further, they state that Sustainable Strategies should be clearly identified in the programs design stage and individually created on a case-by-case basis (AusAid, 2000). By focussing on creating sustainability in the present, this concept may avoid the illusive and expensive search for impacts after the program is finished.

The TLM provides a unique results approach by incorporating a more rounded definition of outcomes and sustainable strategies in process-orientated frameworks. It is intended to focus on meaningful change without over reporting on details and unattainable attribution for long-term effects. The long-term vision is maintained by illustrating strategies that actively seek sustainability. By creating a space to illustrate both process and results, the TLM seeks to reach a balance between the two approaches.

4.0 Logical Statements

Logic models contain two forms of inquiry. First, the individual components ask for specific information. Second, the components should link together to form a logical statement. Gilroy Coleman (1987) describes how the logic models are constructed to express program rationale in a series of 'if-and-then' statements. These statements are the underpinnings of the model. If the linkages are not tested correctly, then the model is limited to what Des Gasper (1997) refers to as a "box-filling" exercise. This deflates the models to the questions asked by each component, essentially overlooking the opportunity to test how the components fit together to form the program rationale.

In regards to the TLM, it has four lines of horizontal logic and one vertical. The horizontal logic is embedded in the program context row, program design row, modification row, and subsequent program design rows. The vertical logic is articulated through the series of installments or stages. The combined logical statements should convey the program story. These statements are illustrated in Figure 6 and discussed in the following section.

The first logical statement sets the stage for the program by explaining the overall premise: *'If these are the issues for this population, **then** we hope to create this change based on these premises.'* While the second line addresses the issues outlined in the first, by illustrating the inner workings of the program: *'If this is what we want to realistically accomplish, and these are our resources to carry out these activities, and we will ensure long-term results with these strategies, **then** we will have this effect, which will be illustrated through these variables.'* One of the unique elements of the TLM is that the two horizontal logical statements in the initial stage are re-examined after a period of action/implementation in the third statement of: *'If the program context has changed in this manner and the interim assessment have shown this, **then** the program should (or should not) adapt in this manner.'* This provides a space to record changes, assessment and make adaptation to the program as needed. These changes are then recorded in the fourth statement which articulates the redesigned inner workings of the program: *'If this is what we want to*

realistically accomplish, and these are our resources to carry out these activities, and we will ensure long-term results with these strategies, ***then*** *we will have this effect, which will be illustrated through these variables.'*

Each stage of the TLM represents a snapshot of the program taken over a period of time. The statement moves beyond one '*if* and *then*' statement to include an additional sentence at each stage of the program's development. The result is an animated story that develops from the following script: '**If** these are the contextual issues the program needs to respond to **then** this is the intervention designed to address it. But **if** the program needs to be adapted **then** this would be the modified designed,' thus, building a chronology of the program.

Figure 6: Logical Statements Within the Temporal Logic Model

Vertical Logic Statement:

'*If* these are the contextual issues that the program needs to respond to....

...then this is the intervention designed to address it.

Implementation Period

But *if* the program needs to be adapted....

....then this would be the modified design."

Program Context	Target Population	Goals	Assumptions
Horizontal Logic Statement1: '*If* these are the issues for this population, *then* we hope to create this change based on these premises.'			
Objectives	Inputs/ Resources	Activities	Sustainable Strategies	Outcomes	Indicators
Horizontal Logic Statement 2: '*If* this is what we want to realistically accomplish, and these are our resources to carry out these activities, and we will ensure long-term results with these strategies, *then* we will have this effect, which will be illustrated through these variables.'					

Program Context Changes	Interim Assessment	Modifications
Horizontal Logic Statement 3: '*If* the program context has changed in this manner and the interim assessment have shown this, *then* the program should (or should not) adapt in this manner.'		
Objectives	Inputs/ Resources	Activities	Sustainable Strategies	Outcomes	Indicators
Horizontal Logic Statement 4: '*If* this is what we want to realistically accomplish, and these are our resources to carry out these activities, and we will ensure long-term results with these strategies, *then* we will have this effect, which will be illustrated through these variables.'					

5.0 THE TLM'S TECHNICAL ASPECTS

Simply defined, the Temporal Logic Model is an evaluation tool which provides an overall pictorial representation of the program components and tracks design modifications during implementation. By including the temporal aspects through a series of stages listed in a table format, the TLM captures program context changes, modifications, and both intended and unintended results. These characteristics should enable the TLM to monitor the learning process.

The Temporal Logic Model reads like a newspaper. It is comprised of two stages, with the second stage repeated throughout the program. The first stage embodies the original program vision and is referred to as the program planning stage. The program planning stage is followed by a series of monitoring stages, which record changes over the span of the program.

The project planning stage should be completed with the initial program design documents. Subsequently, its employment can vary in frequency depending on the size, length, intensity and complexity of the program. In deciding on the frequency, it is important to remember that the TLM should be used to monitor the program and assist in the decision making process. Thus, in addition to a regular monitoring schedule, the TLM should be updated whenever the program design is modified.

6.1 Program Planning Stage

The program planning stage should be used to help design and test the logic of the program. It consist of two rows, the program context row and the program design row. The program context row contains the context and issue that the program will address, while the program design row demonstrates how the issue will be addressed through the program.

Program Planning Stage					
Program Context	Target Population	Goals	Assumptions		
Objectives	Input/resources	Activities	Sustainable Strategies	Outcomes	Indicators

6.1.1 Program Context Row

The first row in the program planning stage provides the background for the program. It includes program context, target population, goals and assumptions. It is intended to convey the information necessary to understand the contextual aspects of the program. The four boxes are designed to create the statement *'If these are the issues for this population, **then** we hope to create this change based on these premises.'* This row is unique in the table as it remains unchanged, providing an overall trajectory and stability for the program.

Program Context: What is the program environment?

This section should describe the defining characteristics of the program environment. It includes general societal and physical trends that affect the target population. This type of component is not found in most logic models.

Target Population: Whom do you want to reach?

The target population box should contain a clear statement of who benefits from the program. It is important to note the distinction between target population and stakeholders. Stakeholders are a larger group, who are involved in and or affected by the program, while the target population is

the program's intended audience. Target population was incorporated into the TLM in order to shape the program and to focus attention on the benefactors. Also known as program reach, it is included in some versions of the results chain, but rarely incorporated into LFAs.

Goals: Where are you going?
Goals reflect the overall direction of the program. Ideally they are clear, concise, and commonly agreed upon. It is important to balance the goal statement between attainable targets and motivating statements. The TLM separates the goals from outcomes and indicators, removing them from direct measurable accountability and freeing them to be used as a motivational tool. Although not present in results chains, they are found in Logical Framework Analysis (LFA) and program logic models.

Assumptions: What are the influences beyond staff control?
Assumptions are the external influences outside the control of the program. Although they are only found in LFAs, they represent a critical aspect of the program and project management. They prompt stakeholders to inquire about what aspects of the program are essential, unstable and beyond the control of the program's staff. These elements exist in every program and require recognition and constant monitoring. Mathie (2000) distinguishes between two types of assumptions: circumstantial and theoretical. Circumstantial assumptions are embedded in the context in which the program is situated. They may include political unrest, natural disasters, drops in currency, or the cooperation of other organizations. Theoretical assumptions are relatively more controllable. Mathie argues that the implementors can establish a body of evidence for the program theory by correlating the assumption with the literature. This involves a closer examination of the dynamics and variables surrounding the casual linkages.

6.1.2 Program Design Row A

The second row is based on versions of LFAs, logic models, and results chains. It includes objectives, inputs/resources, activities, indicators, outcomes, and impacts. The program design row is repeated in every stage of the TLM. The horizontal logic should illustrate how the internal workings of the program fit together, thus, articulating the program's theory of intervention or Shadish's microtheory. It states: *'If this is what we want to realistically accomplish, and these are our resources to carry out these activities, and we will ensure long-term results with these strategies, **then** we will have this effect, which will be illustrated through these variables.'*

Objectives: What do you want to happen?
Clear objectives are necessary for designing a program, administration of the program and evaluation. They break the goal into specific and obtainable targets. Patton (1997) describes a good objective as 'clear, specific and measurable'. In addition to clarifying the direction of the program, objectives are used to critique program rationale. Although objectives are included in the standard LFA, they are frequently missing from results chains and logic models.

Inputs/Resources: What do you have?
Inputs/resources refer to the overall cost of the program. This includes employees' salaries and benefits, materials, use of machines, office space, travel, in-kind contributions, etc. Determining if results justify the cost is necessary to evaluate efficiency.

Activities: How will you make it happen?
Activities refer to planned events, workshops, consultation, research, proposals, writing, and other tasks carried out under the program name. Although dominant in logic models, activities are not found in results chains and LFAs.

Sustainable Strategies: What are the program strategies for ensuring that the initiative continues beyond your program's involvement?
This section requests the program stakeholders to plan several organizational strategies to ensure that the activities are fully integrated into the target community. They are not strategies for self-perpetuating organization but are intended to make the long-term goals of the program take root inside the target community. Sustainable strategies could include empowerment activities, mentoring community members in program management, a revolving fund for development, ...etc.

Outcomes: What are the expected short-term results?
Outcomes are also found in LFAs, results chains, and logic models. As discussed early, the TLM utilizes Outcome Mapping's definition of outcomes as: *"changes in the behaviour, relationships, activities, and/or actions of boundary partners that can be logically linked to, although are not necessarily directly caused by, a project or program."* This avoids the trap of attribution by focussing the evaluation on behavioural changes to which the program's activities have contributed.

6.2 MONITORING STAGE

The subsequent monitoring stages require the program staff to analyse and respond to the program environment and evaluation recommendations. These can occur at regularly appointed intervals or as the need arises. In this manner, the TLM increases the program flexibility, but also requires staff to justify and record program changes.

Monitoring Stage: Installment One					
Program Context Changes		Interim Assessment		Modifications	
Objectives	Inputs/resources	Activities	Sustainable Strategies	Outcomes	Impacts

6.2.1 Modification Row

The monitoring stages consist of a modification row and a program design row. The modification row includes sections on program context changes, interim assessment, and modifications. The embedded horizontal logic statement is simply, *'If the program context has changed in this manner and the interim assessment have shown this, **then** the program should (or should not) adapt in this manner.'*

Program Context Changes: What are the external factors influencing the program?
Program staff must be responsive to the emergence of new information and environmental changes. Unknown factors and known assumptions can undermine a program's stability and render its activities ineffectual, if not harmful. The TLM recognizes this reality by allowing the program to not only identify the assumptions, but also change the program in response to the chaotic environment. Under the heading 'program context changes', program staff may record the factors that influence the program implementation, including external societal trends and internal cultural trends.

Interim Assessment: What worked? What didn't work?
The interim assessment section refers to the results of interim evaluation, monitoring or professional observation. It allows the program administrator to record activities or procedures that are not working, and expand on those that are.

Modifications: What changes have been/should be made? If any?
Modifications refer to changes in program design. These modifications should correlate with program context changes and evaluation recommendation. Changes will not be necessary in some cases, but this option should be left to program stakeholders.

6.2.2 Program Design Row B

The modification row is followed by the newly amended program design row. It will incorporate the modifications and provide an updated program vision. To increase clarity, changes in the program design row can be italicized or bolded. Each time a component changes, it should be re-correlated with the remaining components. A domino effect may occur throughout the row; for example, changing an objective could affect the budget allocation, activities, sustainable strategies, indicators and outcomes.

7.0 Conclusions

Traditional logic models are noted for being inflexible due to their roots in hard system or 'blueprint' style management. By adapting the structure to include a series of stages, the TLM may monitor change in the program design over time. Allowing the program to modify its design increases its responsiveness and flexibility. Further, the TLM's points of inquiry and logical statements prompt the stakeholders to reflect on results, sustainability, program design and the process of implementation in order to review the program's effectiveness, efficiency and rationale. This creates a soft system model for interpreting the program as an open system.

Given this analysis, it has to be recognized that the logic model is a management tool. Whether they illustrate an open or closed system often depends on how they are implemented. This discussion is not intended to minimize the importance of a reflective practitioner, but merely provide them with better tools to carry-out their tasks.

Gordon Framst (2000) stated that there are always three logic models existing in the program at same time: (1) the model of what the program is supposed to be; (2) the model that represents how the project is actually being implemented; and (3) the model that illustrates how the program should be implemented. By these definitions, standard logic models represent what the program is "supposed to be". The TLM expands on the "supposed to be" model by including "how it is currently being implemented" in the modification row and "how it should be implemented based on new learning" in the subsequent design rows. Understanding the tension between these concurrent models should reveal valuable program lessons.

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